IN THE CLAIMS:

Please cancel Claims 1-12, 25-36, 49, and 51 without prejudice to or disclaimer of the subject matter contained therein.

1-12. (Cancelled)

13. (Original) An apparatus for determining the location of a boundary between a speech containing portion and a background noise containing portion in an input speech signal, the apparatus comprising:

means for receiving the input signal;

means for processing the received signal to generate an energy signal indicative of the local energy within the received signal;

means for determining the likelihood that said boundary is located at each of a plurality of possible locations within said energy signal; and

means for determining the location of said boundary using said likelihoods determined for each of said possible locations.

14. (Original) An apparatus according to claim 13, wherein said likelihood determining means is operable to determine the likelihood that said boundary is located at each of said possible locations by: (i) comparing a portion of the energy signal on one side of the current location with a model representative of the energy in background noise; (ii) comparing the portion of the energy signal on the other side of the current location with a model representative of the energy within speech; and (iii) combining the results of said comparisons to determine a likelihood for the current possible location.

15. (Original) An apparatus according to claim 13, comprising speech detection means which is operable to process said received signal and to identify when speech is present in the received signal, and wherein said likelihood determining means is operable to determine said likelihoods in the received signal when said speech detecting means detects speech within the received signal.

16. (Original) An apparatus according to claim 13, further comprising means for filtering said energy signal to remove energy variations which have a frequency below a predetermined frequency.

17. (Original) An apparatus according to claim 16, wherein said filter means is operable to filter out energy variations below 1Hz.

18. (Original) An apparatus according to claim 13, wherein said processing means is operable to divide the input speech signal into a number of successive time frames and to determine the energy of the input signal in each of said time frames to generate a discrete energy signal.

19. (Original) An apparatus according to claim 16, wherein said filter means is operable to output a number of discrete samples representing said filtered energy signal.

20. (Original) An apparatus according to claim 19, wherein said likelihood determining means is operable to determine said likelihood for each of said discrete filtered energy values.

21. (Original) An apparatus according to claim 13, wherein said boundary is at the beginning or at the end of a speech containing portion of said received signal.

22. (Original) An apparatus according to claim 14, wherein said models are statistical models.

23. (Original) An apparatus according to claim 22, wherein said models are based on Laplacian statistics.

24. (Original) An apparatus according to claim 22, wherein said speech model is an auto-regressive model.

25-36. (Cancelled)

37. (Original) A method of determining the location of a boundary between a speech containing portion and a background noise containing portion in an input speech signal, the method comprising the steps of:

receiving the input signal;

processing the received signal to generate an energy signal indicative of the local energy within the received signal;

determining the likelihood that said boundary is located at each of a plurality of possible locations within said energy signal; and

determining the location of said boundary using said likelihoods determined for each of said possible locations.

38. (Original) A method according to claim 37, wherein said likelihood determining step determines the likelihood that said boundary is located at each of said possible locations by: (i) comparing a portion of the energy signal on one side of the current location with a model representative of the energy in background noise; (ii) comparing the portion of the energy signal on the other side of the current location with a model representative of the energy within speech; and (iii) combining the results of said comparisons to determine a likelihood for the current possible location.

39. (Original) A method according to claim 37, comprising a speech detection step which processes said received signal and identifies when speech is present in the received signal, and wherein said likelihood determining step determines said likelihoods in the received signal when said speech detecting step detects speech within the received signal.

40. (Original) A method according to claim 37, further comprising the step of filtering said energy signal to remove energy variations which have a frequency below a predetermined frequency.

41. (Original) A method according to claim 40, wherein said filtering step filters out energy variations below 1Hz.

42. (Original) A method according to claim 37, wherein said processing step divides the input speech signal into a number of successive time frames and determines the energy of the input signal in each of said time frames to generate a discrete energy signal.

43. (Original) A method according to claim 40, wherein said filtering step outputs a number of discrete samples representing said filtered energy signal.

44. (Original) A method according to claim 43, wherein said likelihood determining step determines said likelihood for each of said discrete filtered energy values.

45. (Original) A method according to claim 37, wherein said boundary is at the beginning or at the end of a speech containing portion of said received signal.

46. (Original) A method according to claim 38, wherein said models are statistical models.

47. (Original) A method according to claim 46, wherein said models are based on Laplacian statistics.

48. (Original) A method according to claim 46, wherein said speech model is an auto-regressive model.

49. (Cancelled)

50. (Original) A computer readable medium storing computer executable process steps for controlling a processor to implement a method of detecting speech with an input signal, the process steps comprising the steps of:

receiving the input signal;

processing the received signal to generate an energy signal indicative of the local energy within the received signal;

determining the likelihood that said boundary is located at each of a plurality of within said energy signal; and

determining the location of said boundary using said likelihoods determined for each of said possible locations.

51. (Cancelled)

52. (Original) Computer executable process steps for controlling a processor to implement a method of detecting the presence of speech with an input signal, the process steps comprising the steps of:

receiving the input signal;

processing the received signal to generate an energy signal indicative of the local energy within the received signal;

determining the likelihood that said boundary is located at each of a plurality of possible locations within said energy signal; and

determining the location of said boundary using said likelihoods determined for each of said possible locations.